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DIRECT TESTIMONY
OF
GERHARD HAIMBERGER
ON BEHALF OF
SOUTH CAROLINA ELECTRIC & GAS COMPANY
DOCKET NO. 2005-2-E

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH SOUTH CAROLINA ELECTRIC & GAS COMPANY (SCE&G or Company).

A. Gerhard Haimberger, 111 Research Drive, Columbia, South Carolina. I am employed by SCANA Services, Inc. as General Manager-Fuel Procurement and Asset Management (Fuel Procurement) providing fuel purchasing services on behalf of SCE&G.

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR BUSINESS EXPERIENCE.

A. I have a Bachelor of Science degree in Mining Engineering from the Colorado School of Mines in Golden, Colorado, and am a registered professional engineer. I have been involved in fuel production or procurement for over thirty years. The Company employed me in July 2003, in my current position reporting directly to the Senior Vice-President, Fuel Procurement and Asset Management, SCANA Services, Inc.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to describe the procurement and delivery activities for fossil fuel used in electric generation for SCE&G and South Carolina Generating Company's (GENCO's) Williams Electric Generating Station (Williams Station) for the period March 1, 2004, through January 31, 2005, and to comment on the current state of the U.S. coal industry which has experienced significant price increases of coal since the

1 fall of 2003. I will also comment on the lack of adequate rail service to meet utility coal
2 demand, especially in the southeastern United States.

3 **Q. PLEASE DESCRIBE GENCO AND ITS RELATIONSHIP TO SCE&G.**

4 A. GENCO was incorporated October 1, 1984, and is the owner of the Williams Station.
5 GENCO sells to SCE&G the entire capacity and output from the Williams Station under
6 a Unit Power Sales Agreement approved by the Federal Energy Regulatory Commission
7 (FERC). Hereafter when I refer to SCE&G's fossil steam plants, I include GENCO.

8 **Q. PLEASE SUMMARIZE SCE&G'S FUEL PROCUREMENT NEEDS AND**
9 **PURCHASING PRACTICES.**

10 A. Fuel Procurement purchases all necessary coal, fuel oil and associated transportation for
11 SCE&G's fossil plants focusing on reliability of supply, conformity with operational
12 and environmental requirements, and securing reasonable prices. We also purchase U.S.
13 Environmental Protection Agency (EPA) sulfur-dioxide emission allowances as
14 determined by SCE&G.

15 **Q. HOW DOES THE COMPANY SECURE THE NECESSARY QUANTITIES OF**
16 **COAL AND OIL AT COMPETITIVE PRICES?**

17 A. SCE&G maintains an active list of qualified suppliers of coal and fuel oil used to power
18 the plants. Typically, as contracts expire or needs are identified, solicitations are mailed
19 out for competitive sealed bids.

20 **Q. HOW DOES SCE&G APPROACH THE MARKETPLACE TO MAINTAIN**
21 **SUPPLY RELIABILITY AND AT THE SAME TIME LEVERAGE**
22 **PURCHASING POWER TO NEGOTIATE THE BEST PRICES IN BOTH COAL**
23 **AND FUEL OIL?**

24 A. Coal is procured with long-term (more than one year) and spot purchase (up to one year)
25 agreements to achieve a balance of reliable supplies and flexibility to react to market
26 changes or short-term system needs. SCE&G seeks to have long-term purchases

1 contracts to supply approximately 75 percent of projected system demand and typically
2 are written with option quantities when market leverage allows. Variable quantity
3 clauses, when available, and spot purchases provide the mechanisms to manage
4 inventories and react to short-term changes in the marketplace should prices become
5 more competitive. By utilizing spot purchases, SCE&G has been successful in taking
6 advantage of favorable spot market prices and managing its inventory.

7 Fuel oil contracts are competitively solicited biannually.

8 **Q. HOW DOES SCE&G ASSURE THE RIGHT QUANTITY OF FUEL SUPPLIES**
9 **TO MEET GENERATION DEMANDS?**

10 A. SCE&G uses several methods to bring the fuel supply and demand factors together.
11 Burn levels are calculated and forecasted for each of the generating plants. Coal and
12 fuel oil inventories are then validated and contract quantities are summed to determine
13 system needs going forward. With this information, Fuel Procurement looks at the coal
14 requirements and the economics of exercising available variable quantity portions of
15 long-term contracts or the possibility of going to the spot market to purchase any
16 additional coal requirements at lower pricing. Throughout the years, SCE&G has been
17 successful in leveraging long-term and short-term coal purchases to achieve reasonably
18 low purchase prices while assuring the reliability of coal supplies necessary to support
19 system needs.

20 Fuel oil inventories are purchased to ensure adequate back-up to natural gas for
21 SCE&G's intermediate and peaking generators. Contracts are awarded on a biannual
22 basis using competitive bids. Typically, fuel storage tanks are filled going into peak
23 usage periods and reduced to lower levels throughout the shoulder months to protect fuel
24 quality.

25 **Q. HOW DOES THE COMPANY MANAGE COAL INVENTORIES TO INSURE**
26 **RELIABILITY AND AVAILABILITY?**

1 A. To support anticipated consumption, the Company strives to maintain at approximately
2 925,000 tons its inventory of coal based on an average of twelve months' ending
3 monthly inventories. This methodology allows an inventory of more than 925,000 tons
4 at the beginning of high demand periods and less than 925,000 tons entering the
5 shoulder months. This inventory level provides adequate coverage to best protect
6 SCE&G against availability, production and delivery problems that may arise from
7 time-to-time. It also affords the resources to meet our needs when short-term market
8 prices are unfavorable. It is always important to balance short-term decisions against
9 long-term requirements and future operating conditions. During the period under
10 review, SCE&G has not been able to achieve the desired inventory level due to severely
11 restricted rail service from the eastern coal hauling railroads.

12 **Q. HOW DOES THE COMPANY DETERMINE THE “REASONABLE PRICE”**
13 **FOR FUEL PURCHASES?**

14 A. Fuel Procurement must look for an optimization between adequate supplies of
15 acceptable quality at reasonable purchase prices with the ultimate value of the delivered
16 fuel (coal or oil) determined by the actual measured heat rate efficiency in the operation
17 of our generating plants. The supplier determines the product value on the basis of
18 production cost, transportation and the use of relative index comparisons to other fuels
19 in the energy industry. Markets experience price fluctuation and volatility caused by
20 seasonality, political turmoil, national weather trends and supply/demand imbalances.
21 SCE&G strives to use a variety of pricing mechanisms among coal contracts to mitigate
22 or normalize the effects on prices created by changes in market conditions and indexes.
23 This strategy is accomplished by staying abreast of and knowledgeable about dynamic
24 markets, balancing adequate inventories against long-term contract supplies, making
25 reasonable and supportive spot market purchases and using variable quantity options. In
26 addition to strategically managing current assets, SCE&G participates in several trade

1 organizations, subscribes to a number of industry publications, accesses private and
2 government forecasting and database sources, and maintains contact with other coal
3 consumers, producers, brokers and coal traders. These information sources are essential
4 to staying current with developing trends, knowing about fundamental changes taking
5 place in the industry, and receiving timely and key marketing data and information. The
6 combined information flow is integral in our ongoing analysis of current or prospective
7 coal costs and market comparability.

8 **Q. SUMMARIZE THE QUANTITY, QUALITY, AND TERM OF THE**
9 **COMPANY'S COAL PURCHASES.**

10 A. During the period March 2004 through January 2005, the Company purchased
11 approximately 5.1 million tons of coal under long term agreements and 1.2 million tons
12 of spot purchases. Long term agreements represented approximately 82% of the
13 requirement for the Company's five coal-fired stations, GENCO's Williams Station and
14 Savannah River Site. For the March 2005 through February 2006, period, the Company
15 projects to have long term contracts with 11 suppliers totaling 6.2 million tons of coal
16 representing approximately 85% of the total receipts depending on final contract
17 negotiations. The quality ranges are from 12,200 to 13,000 BTU (British Thermal
18 Units) per pound and sulfur contents from 1.0% to 1.5%. Most of these contracts are for
19 a period of two to four years with some options to renew. The amount of coal under
20 contract will vary from year to year. In some of our coal contracts, we have been
21 successful in negotiating fixed pricing for the term of the contract. In other coal
22 contracts, price adjustments are negotiated for predetermined amounts.

23 **Q. WHAT HAS OCCURRED REGARDING COAL PRICES AND**
24 **TRANSPORTATION RATES IN THE PAST YEAR?**

25 A. Coal prices have escalated dramatically since the fall of 2003, nearly doubling in the
26 period from early 2003 to mid-2004 and have remained so to the present. The following

excerpt from the Energy Information Administration of the Department of Energy web site details some of the reasons for this fundamental change in coal pricing:

- “... Over the past 2 to 3 years Eastern productive capacity, especially that using lower-cost mining techniques, was hampered by regulatory issues, permitting delays, and related lawsuits over mountaintop removal, valley fill, and mined land subsidence
- Readily minable reserves have diminished: although the single-year productive capacity of U.S. coal mines has increased, the duration of coal production from active mines has declined and become concentrated in fewer companies; from 1991 through 2002, productive capacity increased by 9 percent, but reserves at producing mines went down by 17 percent; in 1991 all reserves at operating mines equated to 22.1 years’ production, but by 2002 that figure was 16.6 years
- The decline in overall operating reserves means that an increasing number of individual mines are approaching the limits of useful mine life; Eastern mines increasingly report “geologic problems,” which often portend the end of minable reserves as faults, weak roof, or thinning or splitting coal seams raise costs or impair mining with existing machinery
- Mine operators deferred new mines in recent years because future reserves tend to be in deeper, thinner coal; new mines will be costlier to operate and will require large capital investment and firm sales contracts at higher coal prices
- During 2003 and 2004, several eastern mines were temporarily closed due to fires, accidents, or safety issues; examples include RAG’s Cumberland mine, Pin Oak Resource’s Pinnacle met coal mine, Alliance Resource Partners’ Dotiki mine, and Consol’s Buchanan mine, which together comprise nearly 3.9 million short tons (mst) of lost production
- Five major coal company bankruptcies in the past 24 months—four still in process—were preceded by or resulted in missed or slowed deliveries, coal price increases, and some abrogated contracts that customers had to re-bid; they include Horizon Natural Resources, formerly AEI Resources, the fourth largest U.S. producer of bituminous steam coal. Failures of reclamation bonding companies also put some operations on hold
- In West Virginia, new regulations and licensing of coal truck load limits affect cost and timeliness of coal movements to customers and loading docks
- Meanwhile, PRB mine capacity is heavily committed for 2004 and into 2005; railroad capacity, though enormous, is a limiting factor and relies on trains rolling 24 hours per day, 7 days per week. If deliveries fall behind optimal rates—as they did in early 2003 when electricity generators slowed deliveries to burn off inventories—there are few options to accelerate deliveries later on.

Numerous external factors have also exerted upward pressures on coal prices:

- High natural gas prices over the past year shifted some demand to coal
- Oil prices are still rising, which drives up costs of mining and shipping coal

- 1 • Delivered coal prices skyrocketed in international coal markets due to heat and
2 drought in Europe in 2003, withdrawal of Chinese coal and coke from markets,
3 and extreme demand for bulk carriers by booming Chinese steel industry
- 4 • The Atlantic Ocean market bid up and contracted for excess Colombian coal that
5 some coastal U.S. power plants had considered a primary or back-up coal source,
6 further reducing supply.
- 7 • After several years of declining U.S. exports, the hot international market and
8 weak dollar are diverting Appalachian high-Btu steam coal and low-sulfur
9 metallurgical coal to the export market ...”

10 Rail freight rates have also escalated during the review period driven mostly by recent
11 Surface Transportation Board decisions favoring the railroads on charges set for hauling
12 coal. SCE&G had to renew an expiring rail contract with the Norfolk Southern Railroad
13 in November of 2004 at a 41% increase over the previous contract. Railroads in general
14 are also imposing fuel surcharges in their rates due to the steep increase in diesel fuel
15 prices over the past year.

16 The highest delivered coal cost incurred by SCE&G during the review period, in order to
17 maintain reliable inventory, was for imported coal caused by the inability of the railroads
18 to meet transportation demands for domestic coal (mostly CSX Railroad in SCE&G’s
19 case).

20 **Q. WHAT WERE SCE&G DELIVERED COAL COSTS FOR THE REVIEW**
21 **PERIOD MARCH 2004 THROUGH JANUARY 2005?**

22 A. Exhibit No. __ (GH-1) entitled, “Coal Purchased For Steam Plants”, displays the
23 average cost in dollars per MMBTU (million BTUs) for coal purchased in March 2004
24 through January 2005. The highest delivered cost for any individual purchase during the
25 period was \$3.4784/MMBTU (imported coal) and the lowest, \$1.5044/MMBTU.

26 **Q. WHAT HAS BEEN THE RECENT PRICING TREND IN THE NO.2 FUEL OIL**
27 **INDUSTRY?**

28 A. Fuel oil prices increased dramatically in 2004 reflecting the actions of OPEC, increasing
29 domestic and global demand led by economic growth in China and political instability in
30 Nigeria, Venezuela and the Middle East. During the past year, delivered prices have

1 varied from a weekly low of \$1.0203/gallon in March 15, 2004, to a weekly high of
2 \$1.6738/gallon in October, 25, 2004 (\$7.3935/MMBTU to \$12.1290/MMBTU on a
3 calorific basis). Exhibit No. __ (GH-2) shows the average system delivered No. 2 fuel
4 oil prices in \$/MMBTU for the review period.

5 **Q. HOW HAS THE GENERAL AVAILABILITY OF COAL AND**
6 **TRANSPORTATION BEEN AFFECTED?**

7 A. For the reasons stated above, current coal demand exceeds supply creating a “tight”
8 market resulting in historically high prices. Additionally, rail service for the delivery of
9 coal has not met demand creating a challenging situation to maintain adequate coal
10 inventories. SCE&G continues to examine ways to increase the diversity of both coal
11 supply origin and transportation in order to provide leverage to mitigate future price
12 increases exacerbated by being essentially “rail captive”.

13 **Q. ARE THERE ANY OTHER THINGS THE COMPANY HAS DONE TO**
14 **MITIGATE FUEL RELATED EXPENSES THAT WILL IMPACT FUEL**
15 **COSTS?**

16 A. The Clean Air Act Amendments of 1990 requires electric utilities to reduce sulfur
17 dioxide (SO₂) emissions over time. An SO₂ Emission Allowance Trading Market was
18 established by the EPA to assist utilities in managing the costs of complying with these
19 new regulations. The Company has purchased SO₂ allowances as part of our overall
20 strategy to compensate for our SO₂ emissions. SO₂ allowance emission prices have
21 increased dramatically during the last two years rising from less than \$200 per
22 allowance to over \$700 per allowance in the review period. This increased price reflects
23 the depletion of available allowances.

24 **Q. HAS SCE&G MADE EVERY REASONABLE EFFORT TO MINIMIZE ITS**
25 **FUEL COSTS?**

1 A. Yes. As outlined above, the Company has made every reasonable effort to obtain
2 reliable, high quality suppliers of fuel and transportation at the lowest possible cost to
3 our customers.

4 **Q. DO YOU HAVE ANY CONCLUDING REMARKS?**

5 A. Fuel Procurement maintains excellent market intelligence with a team that is highly
6 experienced in the energy and transportation markets, allowing us to make reasonable
7 efforts to obtain high quality and reliable suppliers of fuel and transportation at the
8 lowest possible cost to the customers.

9 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

10 A. Yes.

Exhibit No. ____ (GH-1)

Coal Purchased For Steam Plants
\$/MMBTU Delivered to Plants
March 2004 – January 2005

Mar 04	Apr 04	May 04	Jun 04	Jul 04	Aug 04	Sep 04	Oct 04	Nov 04	Dec 04	Jan 05
\$1.8470	\$2.0176	\$1.9566	\$2.0821	\$1.9187	\$2.0844	\$2.0901	\$2.0357	\$2.1668	\$2.0026	\$2.4600*

* Significant amounts of import coal received January 2005

Exhibit No. ____ (GH-2)

Fuel Oil Purchased For Plants
\$ /MMBTU Delivered to Plants
March 2004 – January 2005

Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05
\$7.7384	\$7.8246	\$8.1572	\$7.9072	\$8.4428	\$9.2275	\$10.0449	\$11.5870	\$11.0188	\$10.2007	\$10.2203